

**REMARKS**

This Amendment is filed in response to the non-final Office Action dated April 10, 2009, and is respectfully submitted to be fully responsive to the rejections raised therein. Accordingly, favorable reconsideration on the merits and allowance are respectfully requested.

In the present Amendment, claims 1, 3 and 5 have been amended.

Specifically, claim 1 has been amended to further recite that the leather-like sheet product comprises a surface layer; to recite that the surface layer is formed on the surfaces of the first substrate layer, and is selected from the group consisting of (i) a solid surface layer, (ii) a porous surface layer, (iii) a composite surface layer consisting of a solid layer and a porous layer, and (iv) a suede-like surface layer; to specify the weight of the second substrate; and to recite that the second substrate layer (A) is composed of woven fabric, a knitted fabric or an entangled non-woven fabric. Support for the amendment to claim 1 can be found in the specification, e.g., at page 10, line 18, at page 8, lines 14-15, at page 14, line 30, at page 15, line 1, and at page 31, lines 27-30.

Claim 3 has been amended to further recite that the surface layer is made of an elastic polymer. Support for the amendment to claim 3 can be found in the specification, e.g., at page 32, line 7, at page 37, line 33, and at page 43, line 7.

Claim 5 has been amended to recite that the suede-like surface layer consists of napped fine fibers having a fineness of 0.2 dtex or less. Support for the amendment to claim 5 can be found in the specification, e.g., at page 53, lines 30-32.

No new matter has been added. Entry of this Amendment is respectfully submitted to be proper. Upon entry of the Amendment, claims 1, 3-16 and 28-33 will be pending in the application.

Before discussing the rejections set forth on the Office Action of April 10, 2009, Applicant preliminarily expresses appreciation to the Examiner for the withdrawal of earlier rejections.

For the reasons explained in further detail below, Applicant respectfully submits that rejections set forth in the Office Action of April 10, 2009, should now also be withdrawn.

**I. Response to Rejections Under 35 U.S.C. § 103(a)**

Claims 1, 3-6, 8-11 and 32 and 33 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over newly-cited U.S. Patent 5,503,899 (Ashida) in view of newly cited U.S. Patent 3,705,226 (Okamoto).

Claim 7 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Ashida in view of Okamoto as applied to claim 1, and further in view of newly cited U.S. 2001/0038901 (Morishima).

Applicant respectfully traverses and respectfully submits that these rejections should be withdrawn in view of the amendments to the claims and the following remarks.

Claim 1, as amended, is directed to a leather-like sheet product comprising a surface layer and a substrate which contains a bundle of fine fibers, wherein the substrate consists essentially of: (1) a first substrate layer having a structure that is composed of an elastic polymer and a

bundle of fine fibers, and the elastic polymer surrounds the bundle of fibers and is not existent in the inside space of the bundle of fine fiber; (2) a second substrate layer (A) composed of a woven fabric, a knitted fabric or an entangled non-woven fabric which is essentially composed of a bundle of fine fibers and containing no elastic polymer, and the layer (A) has a weight of 30 to 500 g/m<sup>2</sup>; and (3) the concentration of the elastic polymer in the first substrate layer changes continuously in the direction of thickness, and the surface layer is a layer selected from the group consisting of (i) a solid surface layer, (ii) a porous surface layer, (iii) a composite surface layer consisting of a solid layer and a porous layer, and (iv) a suede-like surface layer and is formed on the surfaces of the first substrate layer, and the surface layer.

Applicant respectfully submits that the presently claimed invention is not rendered obvious by Ashida alone, or in combination with Okamoto. Ashida teaches a substrate layer composed of an elastic polymer and a bundle of fine fibers. Ashida also teaches that at least one of the surface layer or the substrate layer is napped (hereinafter referred to as "the napped layer").

The presently claimed leather-like sheet comprises a substrate, which consists essentially of a first substrate layer and a second substrate layer. The concentration of the elastic polymer in the first substrate layer changes continuously in the direction of thickness. Furthermore, the second substrate layer (A) of the present invention is not subject to a napping treatment.

With respect to the first substrate layer, Ashida fails to teach or suggest a leather-like sheet according to the presently claimed invention, because Ashida fails to teach that the concentration of the elastic polymer changes continuously in the direction of thickness in a first surface layer of the leather-like product.

Regarding the second substrate layer (A) of the presently claimed invention, layer (A) as recited in claim 1, has a weight of 30 to 500 g/m<sup>2</sup>, which is relatively heavy. The Office Action asserts that the napped layer of Ashida corresponds to the second substrate layer (A) of the present invention having a bundle of fine fibers and containing no elastic polymer. (*See* Office Action, p. 4, lines 1-13). Applicant disagrees. Applicant respectfully submits that there is no disclosure in Ashida of a napped surface having a weight of 30 g/m<sup>2</sup> or more. Therefore, the presently claimed invention distinguishes over the disclosure of Ashida, because Ashida fails to disclose or suggest the recitation of amended claim 1 with respect to the weight of the second substrate layer (A).

Furthermore, the second substrate layer (A) of the presently claimed invention is not subject to a napping treatment. The presently claimed invention recites that the second substrate layer (A) is composed of a woven fabric, a knitted fabric or an entangled non-woven fabric wherein the fibers are twisted with each other. Therefore, the second substrate layer (A) is clearly different from the napped layer of Ashida, which is subjected to a napping treatment.

Accordingly, Ashida fails to teach or suggest a leather-like sheet product comprising a substrate having a first and second substrate according to the presently claimed invention wherein the concentration of the elastic polymer changes continuously in the direction of thickness. Furthermore, Ashida fails to teach or suggest second substrate layer (A) having a weight of 30 to 500 g/m<sup>2</sup>, which is not subjected to a napping treatment.

Okamoto does not cure the deficiencies of Ashida, for at least the following reasons. Okamoto discloses a substrate layer composed of an elastic polymer and a bundle of fine fibers. Okamoto also discloses that one of the surfaces of the substrate layer is napped. According to

Okamoto, the surface is composed of a solid surface layer and a suede-like surface layer (*See* Okamoto, Figs. 3A and 3B). Figs. 3A and 3B illustrate a cross-sectional representation of an artificial leather before and after the buffing application. (*See* Okamoto, col. 3, lines 44-46).

Regarding the first substrate layer, the presently claimed invention is characterized in that the concentration of the elastic polymer in the first substrate layer changes continuously in the direction of thickness through the first layer. The continuous change in structure is made by applying a solution of an elastic polymer to one side of a sheet, as recited in claim 12 and disclosed in Example 1 in the specification. By applying the elastic polymer to one side of a sheet, the elastic polymer penetrates into the sheet and the gradient of the elastic polymer concentration is formed. That is, the concentration of the elastic polymer decreases as the distance from the surface increases.

In Example 1 of Okamoto, the substrate is impregnated with polymer solution and is squeezed. (*See* Okamoto, column 7, lines 71-75). Specifically, Okamoto states, in relevant part, that the fibrous mass obtained was impregnated with a dimethylformamide solution containing 15% by weight of polyurethane, and squeezed in such a manner that 100 parts by weight of the fibrous component contained 151 parts by weight of the polyurethane. Therefore, the substrate in Okamoto does not teach that the concentration of the elastic polymer in the first substrate layer changes continuously in the direction of thickness; i.e., Okamoto does not teach a continuous change of polymer concentration. Thus, the concentration of the elastic polymer in the first substrate layer in Okamoto does not change continuously in the direction of the thickness.

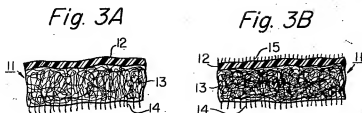
The Examiner has asserted that the continuous change of polymer concentration is observed in Okamoto since the substrate is coated by polymer using a gravure coater. (*See*

Office Action, p. 4, lines 16-17). However, this manipulation in Okamoto is done to form a surface layer. Therefore, the change of polymer concentration would be observed only just below the surface of the first substrate layer, and not through the first substrate layer. In the present invention continuous change results when the substrate is produced, not when the surface layer is made as described in Okamoto.

Regarding the second substrate layer (A), the Examiner regards the napped layer of Okamoto as corresponding to the second substrate layer (A) of the present invention; i.e., having a bundle of fine fibers and containing no elastic polymer. However, the present claims require that the second substrate layer (A) is composed of a woven fabric, a knitted fabric or an entangled non-woven fabric whereby the fibers are twisted with each other. Therefore, the second substrate layer (A) of amended claim 1 is clearly distinguishable over the napped layer taught in Okamoto.

Furthermore, the second substrate layer (A) of the presently claimed invention has a weight of 30 to 500 g/m<sup>2</sup>, which is relatively heavy. The napped layer in Okamoto does not have a weight of 30 g/m<sup>2</sup> or more. Therefore, the present invention differs from Okamoto in the weight of the second substrate layer (A). Also, the second substrate layer (A) of the present invention is not a subjected to napping treatment.

Regarding the surface layer, Okamoto discloses a solid surface layer and a suede-like (napped) surface layer. (See Okamoto, Figs. 3A and 3B below).



Applicant submits that Fig. 3B of Okamoto shows napped layers (14, 15) on both surfaces. The layer 15 is a suede-like surface. The layers 14 is a napped layer made on a layer composed of polymer and fine fibers (13). In the presently claimed invention, only the first surface layer is napped. The second substrate layer (A) in the presently claimed invention does not have a napped surface. Thus, the substrate and the surface layer of the presently claimed product distinguishes over Okamoto.

To facilitate the Examiner's understanding of the distinguishing features of the presently claimed invention, Applicant respectfully requests the Examiner's consideration of the comparison chart in the table below.

The present invention		Ashida	Okamoto (Fig 3 B)
Surface layer	1) solid 2) porous 3) composite 4) suede-like (napped)	suede-like (napped)	suede-like (napped)
The first substrate layer	1) polymer + fine fibers 2) continuous change polymer concentration	polymer + fine fibers	polymer + fine fibers
The second substrate layer (A)	1) a weight of 30 to 500 g/m <sup>2</sup> 2) a woven fabric, a knitted fabric or an entangled nonwoven fabric	none	none
Other layer	none	none	napped

For the above-mentioned reasons, Ashida alone, or even combined with Okamoto, fails to teach or suggest the leather-like sheet product of the presently claimed invention as recited in amended claim 1. Furthermore, Morishima fails to cure the deficiencies of Ashida and Okamoto, and therefore cannot render claim 7 obvious. Claims 3-11, 32 and 33 depend from claim 1 and are therefore patentable over the references at least for the reasons mentioned with respect to claim 1.

Furthermore, even if it is assumed, *arguendo*, that the teachings of the combined references could support a conclusion of *prima facie* obviousness, which it cannot, Applicant respectfully submits that the presently claimed invention achieves advantageous effects that are not possessed in the products of Ashida or Okamoto. Specifically, the leather-like sheet product (I) of the presently claimed invention comprises a non-impregnated layer which is the second substrate layer (A) essentially composed of fiber and containing no elastic polymer. In the present invention, the stress distributions of the front and rear surfaces are graded and well balanced by the existence of the second substrate layer (A) to obtain a product which has low resiliency and an excellent feel. The present invention therefore has features and advantageous effects that are not present in Ashida and Okamoto. Accordingly, the present invention is novel and non-obvious over Ashida, even in view of Okamoto.

For the above mentioned reasons, Applicant respectfully submits that the rejections of claims 1, 3-11, 32 and 33 should now be withdrawn.



**II. Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby earnestly solicited.

If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned attorney at the local Washington, D.C. telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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WASHINGTON OFFICE

**23373**

CUSTOMER NUMBER

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